ends (i.e., approximately halfway between the two ends).

The flat circular tilt mount/swivel disk **46** preferably is constructed of a hardened lightweight plastic. The diameter of the disk **46** is slightly smaller than the inner diameter of the groove **62** of the assembled halves of the swivel mounting ring **54**. The outer rim of the disk **46** includes two outwardly projecting stop tabs **72**, spaced apart from each other by approximately 120° around the perimeter of the disk. The stop tabs **72** project within the groove **62** of the mounting ring **54** to contact the stop blocks **70**. Both stop tabs **72** are disposed angularly forward of the stop blocks **70**, and the orientation of the stop tabs **72** is such that the swivel disk **46** has a 60° range of movement. Thus, as in the illustration of FIG. **7**, the swivel disk **46** may turn 30° from the neutral position shown in either direction of arrow **52** before the stop tabs **72** hit the stop blocks **70**.

Other ranges of motion of the swivel disk **46** are possible, the embodiment shown only represents one preferred swivel angle range. Additionally, it is contemplated that the swivel disk **46** be capable of an indexed movement, and have angular holding positions at increments of 5°, 10°, 15° or other incremental values. The holding may be accomplished with a ratchet mechanism or spring-loaded detent, or other similar mechanism well known to one skilled in the art.

The tilt base **44** comprises a mounting foundation for the tilt mechanics and is preferably constructed of plastic, but may be fabricated from other lightweight and strong materials well known in the art. As seen in FIG. **9**, the tilt base **44** includes a flat lower surface (not shown) which attaches flush to the swivel disk **46** with four screws **74** extending upward from underneath the disk via four through-holes **76**. The tilt base **44** includes the two upstanding walls **50** having upper arcuate surfaces **78** which define an access gap **80** therebetween. Aligned circular apertures **82** pass transversely through the side walls **50** of the tilt base.

A tilt tube **84** extends through and is supported by the apertures **82** in the tilt base walls **50** to provide a pivot shaft for the computer cover **24**. In this respect, the attachment yoke **42** comprises an attachment plate **86** and two downwardly extending pivot arms **88** which rotate on the tilt tube **84**. The attachment plate **86** preferably includes four holes **90** through which machine screws (not shown) pass to rigidly secure the plate flush with the bottom end **27** of the cover **24**. The pivot arms **88** are spaced apart to extend down around the outside of the tilt base walls **50**. Circular apertures **92** in both pivot arms **88** line up with the wall apertures **82**, the tilt tube **84** thus extending through all four aligned apertures.

As seen in FIG. **5**, the pivot arms **88** extend a sufficient distance to support the attachment plate **86** and connected cover **24** above the step **34** when the cover is tilted open. Thus, the cover **24** may freely swivel without risk of contacting the step **34**.

The tilt tube **84** includes two end caps **94**, **95** which retain the tilt tube within the apertures **82** and **92** of the tilt base **44** and yoke **42**, respectively. The hollow removable tilt tube end cap **94** threadingly engages a female inner bore **97** in the end of the tilt tube **84** to hold the tilt tube, attachment yoke **42** and tilt base **44** together. Likewise, the opposite end cap **95** may be removable or fixed to the tube **84**, as desired.

The attachment yoke **42** freely rotates about the tilt tube **84**, while the tilt tube is constrained from rotating relative to the tilt base **44**. In this regard, notches **96** in the tilt base wall apertures **82** receive an index tab **98** on the tilt tube **84** to provide a rotational lock, locating the tilt tube relative to the tilt base **44**. The index tab **96** extends along the middle portion of the tilt tube **84**, leaving cylindrical end portions **99** over which the attachment yoke arms **88** pivot. The pivot arms **88** also include corresponding notches **101** which receive the index tab **98** during insertion of the tube **94**, but which are proximate to the cylindrical end portions **99** during operation to permit the yoke **42** to tilt.

A pair of washers **103** comprising Teflon ® or other suitable non-sticking material install between the inner yoke arms **88** and the outer tilt base walls **50** to reduce friction and wear. A spring steel compression washer **106** fits between the tilt tube end cap **95** and outer side of the yoke arm **88** to apply tension to the tilt tube assembly and reduce the possibility of loosening of the end caps **94**.

A tilt stop **100** protrudes from the outside face of each tilt base wall **50**. The tilt stop **100** presents an obstruction for a tilt stop tab **102** on the rear edges of each attachment yoke arm **88**. As the attachment yoke **42** pivots from a cover closed position shown in FIG. **3** to a cover open position in FIG. **5**, the tilt stop **100** and stop tab **102** contact and prevent farther rotation, thus limiting the angle of tilt of the cover **24**.

Other tilt ranges of the cover **24** are possible, the embodiment shown only represents one preferred tilt angle range. Additionally, it is contemplated that the attachment yoke **42** be capable of an indexed movement, and have angular holding positions at increments of 5°, 10°, 15° or other incremental values. The holding may be accomplished with a ratchet mechanism or spring-loaded detent, or other similar mechanism well known to one skilled in the art.

As illustrated in FIGS. **7** and **9**, a communication cable **108** between the cover **24** and base **22** passes through a first slot **104** in the attachment plate **86**, around the tilt tube **84** within the access gap **80** and thereafter enters the base **22** through a second slot **106** formed in the swivel disk **46**. Some slack is provided in the cable **108** within the access gap **80** to accommodate relative motion between the rear edge of the cover **24** and base **22**.

Referring now to FIG. **8**, the tilt tube **84** preferably consists of a hollow cylinder. An opening **110** to the hollow center, directly under the first cable slot **104** in the yoke attachment plate **86**, provides a pathway for an alternative communication cable **112** to pass between the cover **24** and base **22**. The cable subsequently exits from the hollow end cap **94** and thereafter into the base **22** via an aperture (not shown) in a side wall of the recess **36**.

Although this invention is described in terms of certain preferred embodiments, other embodiments that will be apparent to those of ordinary skill in the art are also within the scope of this invention. Accordingly, the scope of the invention is intended to be defined by the claims that follow.

What is claimed is:

1. A portable computer, comprising:

a base;

a cover incorporating a display screen;

a hinge assembly connecting said cover and said base, said hinge assembly movable in two axes to permit said cover to tilt about a horizontal axis and to